American-Made Energy Freedom Act

Energy Trust Fund

- ☑ **ANWR's direct revenue to the Treasury is estimated at $40 billion during its lifetime of production at today's oil prices. All of these monies – at no cost to the taxpayer -- would be placed into an investment fund to incubate the development of new technologies, including the development of cellulosic biomass, coal-to-liquid clean fuels, solar and other alternatives to foreign oil.**

- ☑ **This is THE <u>LARGEST FUND EVER PROPOSED</u> for alternative energies for the future. And it's all paid for.**

Cellulosic Ethanol -- $1.25 billion tax credit

- ☑ **Cellulosic Ethanol, the next generation ethanol, is a renewable fuel produced from plants which can be found in all 50 states – corn stover, rice straw, wheat and barley straw, switch grass, woody biomass, sugar cane waste, grass clippings, waste paper, ag waste, etc.**

- ☑ **The ethanol production process represents a carbon cycle, where plants absorb carbon dioxide during growth, "recycling" the carbon released during fuel combustion.**

- ☑ **Cellulosic ethanol can be developed as a primary fuel for cars and trucks to potentially displace our dependence on foreign oil. There numerous benefits of celluloisc ethanol: invests energy dollars at home; a domestically secured supply; CO2 neutral or negative energy; and another major crop for our farmers.**

- ☑ **Federal production tax credits are needed to ensure breakthroughs in biotechnology, new feedstocks, harvesting, storage, transportation and processing to produce a renewable and sustainable transportation fuel at a price competitive with fuel from the mature petroleum industry.**

- ☑ **According to Department of Energy studies, cellulosic ethanol reduces greenhouse gas emissions (GHG) by 85% over reformulated gasoline.**

- ☑ **In 2005, ethanol use in the U.S. reduced $C0_2$-equivalent greenhouse gas emissions by approximately 7.8 million tons, equal to removing the annual emissions of more than 1.18 million cars from the road.**

- ☑ **By 2050, cellulosic biofuels could reduce greenhouse gas emissions by 1.7 billion tons per year. That's equal to more than 80% of current transportation-related emissions.** Source: Natural Resources Defense Council (NRDC)

- ☑ **Biofuels contain no sulfur and produce low carbon monoxide, particulate and toxic emissions. Biofuels will make it easier to reach air pollution reduction targets.**

- ☑ **Quote from Natural Resources Defense Council Website:**

  "Offer incentives for deploying the first billion gallons of cellulosic biofuels. With oil prices skyrocketing and greenhouse gas emissions piling up, we need to shift to biofuels today, not in the distant future. To make sure that at least 1 billion gallons of cellulosic biofuels are produced by 2015, the government should offer $1 billion in incentives to production facilities."

- ☑ **Land resources in the U.S. are capable of producing 1.3 billion tons of biomass per year for ethanol. This is sufficient to displace 30% of the country's present petroleum consumption.** Source: Department of Energy, USDA

- ☑ **Blended with gasoline, ethanol can help extend our fuel supply by adding volume to the market.**

- ☑ **Every 1 Btu of petroleum fuel used to produce ethanol generates 13.2 Btus, greatly enhancing U.S. energy security.** Source: USDA

- ☑ **The technology is in use today. Iogen Corporation in Ottawa, Canada produces just over a million gallons annually of cellulose ethanol from wheat, oat and barley straw in their demonstration facility.**

Coal-to-Liquid - $1.5 billion tax credit

- ☑ **Coal liquefaction can produce a virtually sulfur-free diesel fuel which is cleaner than conventional diesel. This process can also produce jet fuel and many other products.**

- ☑ **At the very least, this technology could produce approximately 2.6 million barrels of fuel (109 million gallons) per day by 2025 and meet 10% of projected U.S. oil demand.**

- ☑ **As early as 1944, Germany's CTL plants were producing 90% of the nation's fuel needs. In the 1950s, South Africa developed a coal-to-liquids industry that today provides a quarter of that nation's transportation fuel. China is already building a $2 billion CTL plant that will begin using its coal reserves in the fall of 2007, and plans to build many more.**

- ☑ **Federal tax credits are needed because of the enormous capital investments required to start production. This will protect producers from a stranded investment if the oil market is flooded with cheap foreign oil.**

- ☑ **U.S. coal deposits contain more energy then the world's oil reserves – equal to one trillion barrels of oil.**

- ☑ **National Security -- The Office of the Secretary of Defense recently issued a Clean Fuels Initiative proposal to run all battlefield engines on a synthetic fuel. This strategy would enable the military to avoid buying oil from unstable regimes that are known sponsors of terror, mitigate supply chain vulnerabilities to events like Gulf Coast hurricanes, and simplify the fueling of battlefield equipment that presently run on multiple fuels.**

- ☑ **When coal is liquefied impurities such as sulfur and mercury can be stripped out, instead of otherwise being emitted into the air. The resulting fuels burn virtually free of these pollutants. Sulfur-free fuel means less smog and acid rain, among many other benefits.**

- ☑ **Carbon Sequestration -- the coal liquefaction process allows carbon dioxide (CO2), the leading global warming agent, to be removed with little difficulty from the waste stream. Once separated, the CO2 can be stored permanently underground, buried deep in the earth and stored much like it was stored as coal.**

- ☑ **In fact, there is a market for injecting carbon dioxide underground. Oil fields use CO2 to revive depleted oil wells, pumping the gas under pressure deep into oil-bearing formations, to force otherwise irretrievable oil to the wellhead. This process, known as enhanced oil recovery (EOR).**

Solar / Fuel Cell - $260 million tax credits

- ☑ **Enough sunlight reaches the earth's surface each year to produce approximately 1,000 times the same amount of energy produced by burning all fossil fuels mined and extracted during the same time period.**

- ☑ **One million solar energy systems will be installed on rooftops across the United States by 2010. The Department of Energy's Million Solar Roofs program kicked off in 1998 and is already ahead of schedule. The installation of these systems could eliminate carbon dioxide emissions equal to that produced by 850,000 cars.**

- ☑ **In California, residential solar installations rose 53% in 2004, thanks to a generous state rebate program. This could be magnified with expanded federal incentives.**

- ☑ **The main resource required for many photovoltaic cells is silicon, a major component of sand. The silicon cells manufactured from one ton of sand could produce as much electricity as burning 500,000 tons of coal.**

- ☑ **In the southwestern United States, nine commercial concentrated solar power plants produce about 354 megawatts of electricity. That's enough to power more than 85,500 homes per year.**

- ☑ **A fuel cell is an electrochemical device that converts the energy of chemical reactions directly to electricity.**

- ☑ **Fuel cells will make it possible to economically generate electricity at remote locations, reducing dependence on large central power generating plants.**

- ☑ **National Security -- Even the military is enthusiastic about fuel cells. Fuel cells are being developed to power small weapons systems. Fuel cell-powered tanks and personnel carriers could travel in complete silence, with almost no infrared signature.**

- ☑ **When hydrogen is the fuel; water, heat and electricity are the only by-products of the electrochemical reaction in a fuel cell.**

- ☑ **A residential fuel cell system, similar to a typical diesel generator, allows people to become independent of the brown outs, power failures and voltage irregularities that are commonplace when connected to the utility grid.**

Fund Emerging Renewable Fuels Development

- ☑ **Encourages, through grants, the removal of slash, brush, pre-commercial thinning material, and other non-merchantable forest biomass from federal lands and Indian reservations for biomass energy production.**

- ☑ **Between 100 and 200 million acres of America's federal lands are at risk of catastrophic wildfire. Millions more acres of non-federal lands are also at risk. Woody biomass utilization can help reduce or offset the cost and increase the quality of restoration or hazardous fuel reduction treatments.**

- ☑ **Develops programs on cellulosic biomass and biofuels for electric power generation with industry and institutions of higher education.**

- ☑ **Establishes a program to demonstrate new technologies for the production of biofuels.**

- ☑ **Farmers stand to gain from the expanded use of biofuels. As a transportation fuel, biofuels represent a new market for agricultural material. By requiring fewer inputs, energy crops help reduce yearly operating costs.**

- ☑ **Biodiesel blended with petroleum-based diesel can reduce emissions of carbon dioxide — a chief greenhouse gas — by up to 80%.**

- ☑ **Establishes loan guarantees for the construction of facilities to produce fuel ethanol and other commercial byproducts from municipal solid waste and cellulosic biomass.**

- ☑ **According to the Environmental Protection Agency, the United States has about 89 operational Municipal Solid Waste (MSW)-fired power generation plants, generating approximately 2,500 megawatts, or about 0.3 percent of total national power generation. However, because construction costs of new plants have increased, economic factors have limited new construction.**

- ☑ **U.S. residents, businesses, and institutions produced more than 229 million tons of MSW in 2001, which is equivalent to approximately 4.4 pounds of waste per person per day. In 2001, 33.6 million tons of MSW were combusted.**

- ☑ **Establishes loan guarantees for four projects to demonstrate the commercial feasibility and viability of converting cellulosic biomass or sucrose into ethanol. Furthermore, provides funding for research, development, and implementation of renewable fuel production technologies.**

- ☑ **Provides grants for the construction of facilities to produce renewable fuels (including ethanol) from cellulosic biomass, agricultural byproducts, agricultural waste, and municipal solid waste.**

☑ **Establishes loan guarantees for advanced energy projects, renewable energy, advanced fossil energy, hydrogen fuel cells, advanced nuclear energy, carbon sequestration, and energy efficiency technologies.**

Arctic National Wildlife Refuge (ANWR) -- Exploration

☑ **The U.S. imports 65% its petroleum needs today. By 2025, the Energy Information Administration (EIA) projects the U.S. will import 71% of its petroleum.**

☑ **Two-thirds of the world's known oil reserves are located in the volatile Middle East.**

☑ **In 1980, the Congress and President Carter created the nearly 20 million acre Arctic National Wildlife Refuge (ANWR), but they set aside 1.5 million acres of ANWR's northern coastal plain for the purpose of future energy exploration and development. This parcel is known as the "1002" area, named after the section of the Act that set it aside for its energy resources.**

☑ **Energy exploration and production in ANWR will take place under the most stringent environmental protection requirements ever applied to federal energy project, using the most sophisticated 21st Century technology available. It will be limited to just 2000 acres of ANWR's "1002" area, an acreage limitation made possible by 21st century technology and first authored by Rep. Heather Wilson (R-NM).**

☑ **ANWR could be the single largest conventional energy resource in America. The mean estimate of recoverable oil from 2000 acres in ANWR is 10.4 billion barrels. That's more than double the proven reserves of Texas and could increase America's total proven reserves (21 billion barrels) by nearly 50%.**

☑ **At peak production, energy development on ANWR's northern coastal plain could deliver to the lower 48 states an additional 1.5 million barrels of oil per day. That is an amount equal to the daily supply America lost in the Gulf of Mexico due to Hurricane Katrina; it is more than the daily excess supply in today's global market; and it is nearly equal to the amount we import from Saudi Arabia every day.**

☑ **A new Congressional Research Service (CRS) report concludes that safe energy exploration and production on ANWR's northern coastal plain could raise $111 to $173 billion in federal royalties and tax revenues.**

☑ **Export ban -- all oil and natural gas produced on ANWR's northern Coastal Plain must stay in America.**

☑ **The only inhabitants of ANWR's northern coastal plain - the Inupiat Eskimos – support environmentally safe exploration and production because it will provide their people with good jobs, and funds for water and sewer systems, health care and schools.**

☑ **At today's energy prices, just the mean estimate of ANWR's resources represents a $728 billion economic decision: the Congress will either vote YES to invest $728 billion in American energy security, economic growth and job creation, or vote NO to send all of the above overseas.**